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FEDERAL AID IN ORGANIZING FOREST CREDIT FACILITIES

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THE PURPOSES TO BE SERVED

It is common knowledge that speculative capital is seldom lacking for investment in matured stands of timber. Very largely as a phenomenon connected with the liquidation of speculative forest investments, an excess of capital has flowed to the support of logging and sawmilling operations. These have been relied on as the most effective means of liquidating timber investments, especially if no effort is made to balance production or avoid waste. In making these investments little attention has been paid to the possibility of integrating different wood-using industries in numerous localities without the use of additional capital. It can hardly be maintained, however, that any form of wood utilization has suffered in the aggregate for lack of capital, although the capital has not always flowed to the plant locations economically most desirable. On the whole, capital investment has been directed to the purpose of utilizing existing timber supplies like a store of minerals. It has been so managed as to destroy rather than to preserve the forest resource.

This discussion deals with the problem of supplying capital for continuous forest production. In the section of this report entitled "Status and Opportunities of Private Forestry," it was brought out that a relatively small portion of the existing capital investment in forests is being directed toward sustained-yield operation. To insure continued forest productivity new objectives need to be set up in the management of this capital. New capital investments in extensive forest areas will be needed before growth can be restored to satisfactory levels. It seems apparent that credit capital, obtained on terms appropriate to this type of enterprise, could materially facilitate placing the remaining forests on a continuous-yield basis.

NATURE OF INVESTMENT IN FOREST ENTERPRISES: THE PRESENT INVESTMENTS

As was stated in the section of this report dealing with the status and opportunities of private forestry, 80 to 95 percent of the investment in producing forests is represented by the growing stock and soil, which economists dealing with the factors of production call "land" or "natural resources." Business men include these elements under the term "capital," and from the business standpoint do not distinguish them from capital such as is represented by the forest improvements created by labor or the investment of money. In this discussion the term "capital" will be used in this inclusive sense.

When the first white settlers landed within the territory now included in the United States there were in this territory some 800 million

acres of forests stocked for the most part with trees of magnificent size. At that time, however, these forests had no capital value. Now their remnants have a large capital value. This capital value essentially results from the relationship between human needs and the forest resource and from the right of ownership, which enables the owner to reap profit from the sale of forest products. Very little of the present capital value of American forests has been created by labor or by the investment of money. The money value of property rights in private forests has grown through "unearned increment" as they were handed from generation to generation. The value status at any given time has been recognized as the titles were transferred from owner to owner. This process of valuating forests has been active in one region after another. The South and the West are the last regions in which prices for timberlands have reached high levels.

It is not to be assumed either that this process has come to an end or that it cannot be reversed. Certainly some reversal, that is to say decline in value, has recently taken place owing to deflation of prices and depletion of growing stock. Future movements of value will depend on the treatment the forests receive. Widespread cutting operations now going on without care for future production are removing forest capital too rapidly to permit replacement by growth unless the forests are rigidly protected from fire and other destructive agencies. Maintenance of capital value during the past 30 years or more, since timber cut has exceeded growth, has depended on writing up values of the stumpage remaining.

Changes in value reflected in such "write-ups" may occur suddenly. After the World War, price and credit inflation brought about increases through a period of nearly 5 years except during the short depression of 1921. Such changes are seldom of any lasting benefit and often bring disastrous after effects. An oversupply of unduly cheap credit might produce similar results. General adoption of improved machinery may increase profits and thus capital values, but its effect is more likely to be dissipated in lower prices to consumers. Skilled management, since it is a scarce factor of production, leads to increased valuation of the properties benefiting by it. The commonest device of skilled management is to adopt improved machinery, improved technique, and the results of research in advance of the industry as a whole.

When the term "capital" is considered as inclusive of these capitalized resource values it becomes clear that organization of forestry as a business involves long-term investments and, if credit capital is used, long-term credit. The capital structure of the enterprise, including both ownership capital and credit capital, should be such that pressure for liquidation or withdrawal of capital will be avoided. For the larger enterprises the device that has been worked out, but not altogether perfected, to serve this purpose is the corporation. By means of the corporation the individual investment has in a considerable proportion of business investments become liquid although the enterprises are permanent. One of the chief elements which often interfere with the permanence of corporate enterprise is the relation of the credit capital to the enterprise as a whole. Permanence depends on limiting the credit capital in amount, limiting interest rates to a point not in excess or not much in excess of the

earnings of the capital, and providing means for gradual amortization. These three factors require careful consideration.

The total investment in privately owned forest lands and timber has been calculated as of the year 1929 by the Forest Taxation Inquiry of the United States Forest Service to be approximately \$4,075,000,-000. This is less than previous estimates of these values, which is readily accounted for by the fact that in the past few years the progress of forest depletion has exceeded the rate at which capital values have been "written up."

FURTHER INVESTMENTS INVOLVED IN BUILDING UP FOREST PROPERTIES

As is shown in other sections of this report, in most regions of the United States the forests have been largely depleted of growing stock; in other words, the forest capital has been liquidated. On large areas this process may have gone too far to permit restoration under private management. This discussion refers chiefly to private forest enterprises on areas that still contain saw-timber or cordwood growing stock or to recently cut-over areas closely associated with saw-timber or cordwood areas.

In most instances forest capital can be built up by establishing conditions under which nature will provide the necessary increased stocking through growth. The safest way to build up capital is through utilizing income from products sold currently. The problem of obtaining sufficient gross income to carry the property and maintain the owner while the growing stock is being built is simplified if high-grade mature timber is present in considerable volume. Where the growing stock is badly deteriorated but a market for low-grade material exists, it may still be possible by skilled management to obtain sufficient income from sales to meet expenses during the time required to rehabilitate the growing stock. On numerous properties money investments will be necessary to pay taxes and the costs of administration and fire protection and permit the owners to forego income from the forest while it is being rebuilt to a condition that will permit continuous operation. This refers to properties occupied largely by young stands too immature for immediate cuttings.

Equally, as urgent as the situations described in the foregoing, if not more so, are conditions found in regions where a temporary surplus of mature timber still remains, specifically in the Pacific coast and north Rocky Mountain regions. Here financial pressure and other influences are leading to hasty and wasteful liquidation of the forests. Credit at economical costs appears fundamental to any program looking to the orderly marketing of the surplus of mature timber under private management in a way to preserve the productivity of those forests on a sustained-yield basis. In any given case, such credits should be extended for the full length of time necessary to accomplish the purpose, with proper rates of amortization as well as of interest. Financial support of this type should assist in diminishing the severity of destructive competition between those now marketing this mature timber without regard to future productivity of the forests and those endeavoring to develop permanent forest enterprises.

There is no adequate basis for estimating with any precision what additions to capital value can be expected as a result of restoration of the growing stock through conservative forest management or what portions of the capital required for this restoration must be borrowed. The enormous losses through growing-stock depletion, the loss of forest improvements, and other features of timber cutting under the liquidation policy add huge sums to the current operating expenses of the industry. The increase in net earnings that will result from saving these losses, under normal conditions of price and of operating costs, will be reflected in capital value. Weighing such information as is available on the present condition of the forest capital with the conditions that must be brought about if the Nation is to continue to be served with forest products warrants the belief that the forests now in private ownership need and reasonably warrant rebuilding to double or more the present capital values.

In addition to enabling present owners of forest land to restore the productivity of their holdings, credit capital would almost certainly have a still larger function in assisting in a redistribution of ownership that would bring more forest land into the hands of enterprisers with the desire and the ability to create permanently productive operating units.

Notwithstanding the desirability of facilitating better management of forests by making credit capital available at reasonable costs, caution should be observed in these credit transactions. An excessive flow of low-interest capital to this field would assuredly result in unjustifiable writing up of capital values. This may be socially undesirable owing to the tendency to divert an undue share of the product of industry to fixed charges at the expense of labor and management.

SOURCES OF PRESENT CAPITAL AND COSTS OF CREDIT CAPITAL

As has already been stated, the principal source of capital in forests (including resource value) has been the gradual process of valuation of the forest resource. The form which title to the capital takes, and the distribution of title, are of importance. Unfortunately, complete information does not exist as to the proportions of capital represented by direct property ownership and by long-term and short-term credit. The most definite information available on any region was obtained by the West Coast Lumbermen's Association in 1931.¹ These data show that the investment value of the lumber industry within the Douglas fir region is approximately \$838,761,149, of which \$502,674,500 is attributed to timber and the remainder to manufacturing plants. No figures are given for the pulp and paper and other important forest industries of the region. The capital involved is represented by direct ownership to the extent of about 75 percent. The form and times of maturity of the debt represented by the remainder are not given.

It is known that no great amount of capital has been available for long-term loans in the form of timber bonds and that the maturities of such bonds are too early to permit amortization of the loan except

¹ Greeley, W. B., The Northwest Lumber Crisis. American Forests, September 1931, pp. 529-533.

through liquidating the stumpage pledged as security. A great deal of the borrowed capital, although invested in permanent form, has come from commercial banks. Since many of these loans lack liquidity they are not altogether adapted to the requirements of commercial banking. Interest rates for loans to be used in timber operations are generally 6 or 7 percent plus financing charges. Since timber operations are often the leading enterprises in their communities they have generally had access to bank credit, often on very easy terms.

While borrowed capital has undoubtedly been costly in some instances, the chief difficulties that arise from the present forms of borrowing have to do with the frequent renewals, refinancing, and general uncertainty with regard to permanence of the sources of credit capital.

Equally reliable information is not available for other regions. Income statistics of the Bureau of Internal Revenue² show that during the year 1929 corporations engaged in the lumber and woods-products industries paid \$18,049,813 and the pulp and paper industries \$17,260,075 in interest charges. These amounts were 1.56 percent of the gross receipts of the lumber and woods-products corporations and 1.86 percent of the gross receipts of the pulp and paper industries, respectively. In comparison, the average interest charge of all manufacturing industries was 0.98 percent of gross receipts. The greater part of the forest-products manufacturing is carried on by corporations, but less than half the privately owned forests that are still productive are owned by corporations. No data are available on the credit capital used by individual owners of woodlands or of small sawmill plants.

It is known, however, that throughout the forested regions farm woodlands form part of the security for farm-mortgage indebtedness. The size of the interest bill for corporate forest industries taken together with what is known of farm-mortgage practices in woodland regions leaves little doubt that the total borrowed capital in the forest industries, including forest land and timber holdings, in the United States approaches \$1,000,000,000.

It is desirable to reiterate that this borrowing and the resulting interest charges have been for manufacturing purposes rather than for care and perpetuation of forest productivity. The latter purpose is not adequately cared for in the present financial provisions within the forest industries.

ORGANIZED METHODS OF PROVIDING BASIC CAPITAL

In the modern world individual dealings between borrowers and lenders do not meet the needs of industry. Not only are the sums commanded by individuals too small to meet requirements but the undistributed risk to investors is too great. To provide for the flow of capital to the points where it will have the greatest utility and be invested with the least risk has become an institutional problem. Institutional development to meet such needs is by no means complete. In late years a strong tendency has manifested itself toward the development of lending institutions adapted to special requirements. Many examples such as insurance companies, mutual-savings banks.

² Statistics of Income for 1929, pp. 268-284.

and building and loan associations come readily to mind. These have been developed chiefly to serve the needs of persons wishing to save and lend capital, although the building and loan associations originally had an equal aim of serving borrowers. Of more recent development are institutions organized specifically to serve needs of borrowers. These include smaller institutions such as credit unions, but the more outstanding examples are the Federal land banks, the intermediate credit banks, and the home loan banks. To be successful all such institutions must provide a very high degree of security to the funds of lenders.

Whether organized primarily to serve lenders or borrowers, all these institutions require the exercise of the age-old governmental function of protecting the average individual against the encroachments of thievery and dishonesty. These encroachments, which in a simpler society took the form of direct assaults on individuals for the purpose of wrongful appropriation of private property, now take the more subtle and far more effective form of financial manipulation. To prevent losses from this cause as well as from misappropriation of funds by persons in positions of trust, and to reduce losses from incompetent management to a minimum, it has increasingly become a duty of Government to supervise all sorts of banking and financial institutions.

In connection with efforts to accomplish the above ends it has been learned that correct methods of organization and operation result in economy and that mass borrowing on sound lines tends to provide credit capital at lower cost to industry. The Federal land banks have been reasonably successful in attaining these objectives, greatly reducing interest rates on farm mortgages in localities remote from centers where investment funds are plentiful. No Federal land bank bonds have been defaulted.

An institution to serve borrowers should be organized and operated in such a way as to (1) limit safely the amount of credit capital used by the borrower, (2) provide an interest rate within or not much beyond the earning capacity of the enterprise, and (3) provide a rate of amortization the enterprise can meet without the added expense incident to refinancing.

LIMITING THE AMOUNT OF CREDIT CAPITAL USED

It is a frequent practice to provide credit capital to the extent of 50 to 60 percent of the total capital required in an enterprise. By various subterfuges even these limits are exceeded. No doubt circumstances occasionally arise in which the use of credit to this extent is justified, especially if means for rapid amortization of the excess percentage are available. Events of recent years have made it plain, however, that the use of credit capital to these percentages is attended by risks of loss of the physical property by the borrower and loss of investment funds by the lender. If the financial needs of an entire industry are to be served, with full consideration for stability of the credit capital throughout the business cycle, the limit of credit capital should as a regular practice be fixed far below 50 percent.

One of the fundamental reasons for limiting permanent credit capital lies in the changes constantly taking place in capitalized value.

Farm values serve as a good illustration. Census statistics³ show that the values of farm land and buildings in different years were as follows:

1920-----	\$66, 316, 002, 602
1930-----	47, 879, 838, 358

It is by no means improbable that value shrinkages were even greater than reported and that the aggregate value at the present time is still lower. By 1931 farm debt had risen to between \$13,000,000,000 and \$14,000,000,000, with interest averaging 6 percent on mortgage debt, 8 percent on short-term credit, and 15 to 20 percent on merchant credit.⁴ The total annual interest charge approximated \$900,000,000. In 1930 the gross income of agriculture, including the value both of commodities sold and of commodities consumed on farms, was \$9,401,939,000.⁵ Interest charges in 1930 were therefore about 9½ percent of gross income. Since income has continued to shrink, interest charges constitute an increasing percentage of gross income. Railroads supply another example of heavy indebtedness that has carried serious difficulties. Consideration of these examples warrants the conclusion that in undertaking to serve the needs of forest enterprises organized for continuous yield the use of permanent credit in excess of 30 percent of the total capital in any individual enterprise should be discouraged. Temporary credit in excess of this percentage will frequently be necessary in the process of assembling and organizing such properties.

INTEREST RATES AS RELATED TO EARNING CAPACITY

When interest rates are paid by an enterpriser in excess of the earnings of his project the lender receives the earnings of his own capital plus part or all of the earnings of the borrower's capital, or the surplus rate may be absorbed by costs of placing and administering the loan or by risks on that class of loans. A leading function of credit organization is to reduce costs of placement and administration of loans and to distribute risks. As a result of efficient organization the borrower should be required to pay no more than necessary for the use of the credit with minimum costs incident to carrying the risks and to administration and financing, and the lender seeking safety for his capital should receive an approximation to the riskless rate. The chief factors to be considered are the adequacy of business volume to distribute overhead costs and risks, the building up of reserve to insure meeting unusual risk, and loaning on an amortization plan to avoid frequent refinancing charges. Limitation of loan percentages together with systematic amortization underlies the elimination of risk.

When all possible has been done by these means to establish low interest rates, comparison may be made between the interest rates and the prospective earning rate of the enterprise. The available means for supplying credit capital at still lower rates are virtually limited to the use of tax-collected public funds or of funds raised on securities

³ Bureau of the Census. Fifteenth Census of the United States, 1930. Vol. II, Agriculture, Table 1.

⁴ United States Department of Agriculture Yearbook, 1932, p. 501.

⁵ United States Department of Agriculture Yearbook, 1932, p. 890.

with endorsement of the Federal Treasury. These means should be used only if the public interests involved demand such action.

AMORTIZATION RATES

A rate of amortization that permits discharge of the loan from earnings of the mortgaged enterprise saves refinancing charges and provides a painless method of paying the loan. A loan obtained under these conditions also protects the borrower from the grave risks attending efforts to renew loans in times of depression or panic, and protects the lender against shrinkage in asset value from the same cause. A long amortization period is justified if the loan does not exceed a very conservative percentage of appraisal value, the enterprise is in a field of permanent utility, and the interest rate is as low as or lower than the earnings of the enterprise. It is certainly true that many forest properties meet these specifications. With an interest rate of 5 percent, amortization at one half percent will retire a loan in slightly less than 50 years. A retirement period of 30 to 50 years seems appropriate for basic credit not exceeding 30 percent of the appraised value of the real property. Junior financing beyond the 30 percent should be amortized within 10 years, or subjected to renewals at the time of which the status of the loan can be reexamined.

RELATIONSHIP OF FOREST LOANS TO AIMS OF FEDERAL LAND BANK SYSTEM

A fundamental aim of the Federal land bank system is to promote effective use, in the public interest, of the agricultural land resources of the country and to promote satisfactory social conditions. Effective use of forest lands must be considered closely related to this purpose. For this reason it appears desirable to utilize the existing machinery of the Federal land bank system for handling forest loans rather than to create an entirely new agency. A further important element in this relationship is the fact that much submarginal agricultural land may be diverted to forest use. Facilitating the use of such land for forestry purposes is expected to strengthen agriculture and presumably the security behind farm loans. It appears unwise to impose the function of making forest loans on the present land banks, however, for the reason that these deal with land values chiefly under restrictions that are inapplicable to forest loans. Forest loans will require special types of appraisal and will require supervision of a different technical nature. Therefore, it seems reasonable that the function of providing forest credit should be placed in separately organized institutions.

OUTLINE OF SUGGESTED ORGANIZATION FOR FOREST LOANS

The following is suggested as a possible basis for organizing institutions to provide forest credit:

1. The institutions should be under the control of the Federal Farm Loan Board. This would keep supervising expense at a minimum and insure experienced and competent administration.

2. Not more than four adequately capitalized banks (possibly with \$25,000,000 capital stock each) should be created. This would be

a more liberal capitalization by share capital than is provided for the home loan banks or Federal land banks. It would provide a greater margin of safety for bonds issued and greater facility for building up and protecting adequate reserves.

3. Each bank should have a board of directors of seven members. These would be in part elected by the stockholders and in part appointed by the Federal Farm Loan Board,⁶ as in the case of the Federal land banks.

4. Suitable central organization of the several banks should be provided to permit cooperative action and mutual aid, including issuance of bonds and debentures under joint liability of all banks.

5. Each borrower should be required to purchase stock in his regional bank to the extent of 5 percent of his loan. Simultaneously he should sign an assignable option for the sale of the stock at par value without restriction on the time of such sale. When in the course of time all the stock of any bank had been taken up, options on the oldest stock outstanding should be utilized to transfer the stock to the current borrowers. Stock should be transferable to a purchaser of the forest property involved, and might be made transferable without restriction after the loan it accompanied had been paid.

6. Banks might begin doing business when 40 percent of the capital was paid in. The United States Treasury would be directed to purchase stock to this extent.

7. Dividends on stock should be limited to 5 percent cumulative. Dividends paid in any year should not exceed the earnings of that year after suitable transfers to reserve accounts.

8. Banks should have authority to issue long-term bonds based on mortgage loans as collateral and with joint liability of the banks. In order to take advantage of conditions under which short-term obligations sell at lower interest rates, authority should be granted to issue short-term debentures not to exceed a reasonable percentage of the paid-in capital, with due regard to current income from interest and amortization of outstanding loans.

9. Banks should be authorized to make first-mortgage loans only on forest properties organized for operation on a sustained-yield basis or being subjected to measures necessary to prepare for such operation. Suitable penalties should be provided for violation of these provisions. No loan or loans to a single concern should exceed 10 percent of the paid-in capital of the issuing bank, "single concern" being interpreted to include with a parent corporation all subsidiary corporations or corporations with interlocking directorates. No loan should exceed 30 percent of the appraised value of the property. Net income should be duly taken into consideration in appraisals. Interest rates should not exceed by more than 2 percent the rate borne by the last previous issue of long-term forest loan bonds. First-mortgage loans should provide for amortization within 30 to 50 years. If made within 5 years, payment should be 1 percent above par to cover costs incident to placing the loan.

10. Where bank officials consider such action desirable, second-mortgage loans might be granted on properties on which the bank holds the first mortgage. Such loans should not exceed an additional

⁶ Fifteenth Annual Report, p. 62

30 percent of the value of the property, nor should all such loans placed aggregate more than 25 percent of the forest mortgage loans outstanding. Interest rates on second-mortgage loans might exceed the rate on the last sale of long-term bonds by 3 percent. Amortization within 10 years should be required.

The purposes for which loans might be granted would include the following:

1. Such measures as are designed to improve the productivity of organized forest properties, including restricting cut to permit building up growing stock, fire protection, and necessary silvicultural measures. (When loans are made for these purposes on immature forests or on forests the cutting of which should for any reason be deferred, arrangements may be made to advance the loans in annual installments over periods as long as 20 years. No annual installment should exceed the amount required to meet costs for that year.)

2. To assist in the orderly marketing of timber already mature or, in exceptional cases, to withhold from the market timberlands which it would be economically injurious to throw on an overburdened market.

3. To assist in acquiring tracts and assembling them into units of economic size and location for continuous-yield operations.

4. To assist in constructing permanent transportation systems within the confines of forest properties concerned and to connect them with common-carrier transportation facilities.

5. In exceptional cases, to assist in acquiring, rebuilding, or constructing manufacturing plants necessary for complete and economical utilization of forest raw material from the property concerned, including such facilities cooperatively owned by owners of adjacent holdings. No loan should be granted to provide manufacturing capacity that, combined with the capacity of efficient plants existing in the locality, would be excessive in proportion to the present or soon expected sustained yield of the forests of the locality. Judgment on this element should be based on reports of competent technicians.

RECOMMENDATION

In view of important pending changes in the commercial banking systems and possibly in other financial institutions within the supervisory field of the Federal Government, and in view of the desirability of thoroughly examining the operating methods of institutions with similar purposes in order to utilize their experience to the utmost, it is recommended that a study looking to the establishment of an organization such as is outlined above be undertaken cooperatively by the Forest Service and the Federal Farm Loan Board, to be completed at the earliest practicable date.

NOTE.—The foregoing discussion has been reviewed by Paul Bestor, Farm Loan Commissioner, John H. Guill, member of the Farm Loan Board, and A. F. Cardon, chief appraiser of the Federal Farm Loan Bureau.